

CLAIMS:

1. A compass-based indicator tool comprising:
a housing;
a compass disposed within the housing; and
a magnetic shield surrounding at least a portion of the compass.
2. The compass-based indicator tool of claim 1, wherein the magnetic shield comprises a substantially annular shaped wall extending around a circumference of the compass.
3. The compass-based indicator tool of claim 1, wherein the magnetic shield extends around a periphery of the housing.
4. The compass-based indicator tool of claim 1, further comprising a groove formed in the housing to receive the magnetic shield.
5. The compass-based indicator tool of claim 4, wherein the groove is accessible from an indicator side of the housing that exposes the compass for viewing.
6. The compass-based indicator tool of claim 4, wherein the groove is accessible from a sensing side of the housing for placing the compass in proximity to a target.
7. The compass-based indicator tool of claim 4, wherein the magnetic shield is adhesively mounted within the groove.
8. The compass-based indicator tool of claim 1, wherein the magnetic shield is friction fit into a recess in the housing.
9. The compass-based indicator tool of claim 1, wherein the magnetic shield is potted in epoxy in a recess in the housing.

10. The compass-based indicator tool of claim 1, wherein the magnetic shield defines a recess to receive and encompass at least a portion of the housing.
11. The compass-based indicator tool of claim 1, wherein the housing comprises a sensing side for placing the compass in proximity to a target, wherein the sensing side includes a mating surface for engagement with a locator tool that locates an implantable medical device.
12. The compass-based indicator tool of claim 1, wherein the magnetic shield comprises a plurality of magnetic shielding layers wrapped around a ring-like frame.
13. The compass-based indicator tool of claim 1, wherein the magnetic shield comprises a plurality of annular disks stacked adjacent one another to form a substantially annular shaped wall.
14. The compass-based indicator tool of claim 1, wherein the magnetic shield comprises a substantially cylindrically shaped element.
15. The compass-based indicator tool of claim 14, wherein the housing defines a sensing side for placing the compass in proximity to a target, and an indicating side to expose the compass for viewing, the compass-based indicator tool further comprising a skirt-like member attached to an end of the cylinder adjacent the sensing side of the housing.
16. The compass-based indicator tool of claim 15, wherein the skirt-like member comprises a flexible material having a contoured shape.
17. The compass-based indicator tool of claim 1, wherein the magnetic shield comprises a material having magnetic permeability, saturation, and attenuation properties sufficient to reduce effects of a magnetic field on the compass.

18. The compass-based indicator tool of claim 17, wherein the material comprises a metal foil.
19. The compass-based indicator tool of claim 18, wherein the magnetic shield comprises multiple metal foil layers.
20. The compass-based indicator tool of claim 19, further comprising a dielectric adhesive between the metal foil layers.
21. The compass-based indicator tool of claim 1, wherein the compass comprises a needle indicating a direction of a magnetic field.
22. The compass-based indicator tool of claim 21, wherein the magnetic shield extends above and below a plane defined by rotation of the compass needle.
23. The compass-based indicator tool of claim 1, wherein the magnetic shield comprises a first magnetic shield surrounding at least a portion of the housing, and a second magnetic shield surrounding at least a portion of the compass.
24. A locator tool comprising:
 - a housing;
 - a compass-based indicator tool received by the housing; and
 - a magnetic shield surrounding at least a portion of the compass-based indicator tool.
25. The locator tool of claim 24, wherein the compass-based indicator tool includes a compass that indicates a setting of an implantable medical device.
26. The locator tool of claim 24, wherein the housing comprises:
 - a locating side for locating an implantable medical device, the locating side further comprising an opening for orienting the compass-based indicator tool to a target on the implantable medical device; and

a receiving side for receiving the compass-based indicator tool, the receiving side further comprising a mating surface for engagement with the compass-based indicator tool.

27. The locator tool of claim 24, wherein the magnetic shield comprises a substantially annular shaped wall extending around a circumference of the compass-based indicator tool.

28. The locator tool of claim 24, wherein the magnetic shield extends around a periphery of the housing.

29. The locator tool of claim 24, wherein the magnetic shield defines a recess to receive and encompass at least a portion of the housing.

30. The locator tool of claim 24, wherein the magnetic shield comprises a substantially cylindrically shaped element.

31. The locator tool of claim 24, wherein the magnetic shield comprises a material having magnetic permeability, saturation, and attenuation properties sufficient to reduce effects of a magnetic field on the compass-based indicator tool.

32. The locator tool of claim 31, wherein the material comprises a metal foil.

33. The locator tool of claim 32, wherein the magnetic shield comprises multiple metal foil layers.

34. The locator tool of claim 33, further comprising a dielectric adhesive between the metal foil layers.

35. A system comprising:
an implantable medical device comprising a first magnet to indicate a current device setting;
a locator tool to locate the implantable medical device within a patient;

an indicator tool comprising a compass that interacts with the first magnet to determine the current device setting, and a magnetic shield surrounding at least a portion of the compass to reduce effects of a magnetic field on the compass; and

an adjustment tool comprising a second magnet that interacts with the first magnet to change the current device setting.

36. The system of claim 35, wherein the implantable medical device comprises a subcutaneously implanted fluid flow control valve.

37. A method comprising:

mounting a compass-based indicator tool adjacent to an implantable medical device;

shielding a compass from magnetic fields, wherein the compass is disposed within the compass-based indicator tool; and

indicating a device setting of the implantable medical device, wherein the device setting is indicated on an index by the compass.

38. The method of claim 37, further comprising mounting the compass-based indicator tool adjacent to the implantable medical device via a locator tool that locates the implantable medical device within a patient.

39. A compass-based indicator tool comprising:

a housing;

a compass disposed within the housing; and

means for shielding the compass from an external magnetic field.

40. The compass-based indicator tool of claim 39, wherein the shielding means includes a magnetic shield having a substantially annular shaped wall extending around a circumference of the compass.

41. The compass-based indicator tool of claim 40, wherein the magnetic shield extends around a periphery of the housing.

- 42. The compass-based indicator tool of claim 40, further comprising a groove formed in the housing to receive the magnetic shield.
- 43. The compass-based indicator tool of claim 42, wherein the groove is accessible from an indicator side of the housing that exposes the compass for viewing.
- 44. The compass-based indicator tool of claim 42, wherein the groove is accessible from a sensing side of the housing for placing the compass in proximity to a target.
- 45. The compass-based indicator tool of claim 42, wherein the magnetic shield is adhesively mounted within the groove.
- 46. The compass-based indicator tool of claim 42, wherein the magnetic shield is friction fit into a recess in the housing.
- 47. The compass-based indicator tool of claim 42, wherein the magnetic shield is potted in epoxy in a recess in the housing.
- 48. The compass-based indicator tool of claim 40, wherein the magnetic shield defines a recess to receive and encompass at least a portion of the housing.